



Impact of the Emerging Challenges on the Landscape of Digital Entrepreneurship

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Abstract

This article scans the funding trends of the startups across the globe to unearth the emerging challenges, opportunities, and emerging digital technologies and analyzes the impact of the present economic downturn on the facilitators of digital entrepreneurship and how the leadership is igniting the creative passion of digital startups to transform the current geopolitical challenges into new opportunities. The scrutiny of digital entrepreneurs' value creation processes and the innovation landscape of digital entrepreneurship reveals that the economic downturn and geopolitical conflicts have changed the opportunities basket of digital entrepreneurship. The emerging new digital technological tools are changing the means and processes of value creation. The political leadership and startup financiers are encouraging digital entrepreneurs to pursue more robust and disruptive innovations. The landscape of digital entrepreneurship is reconfiguring to handle the emerging challenges.

Keywords: *Digital Entrepreneurship; Economic Downturn; Emerging Technologies; New Disruptive Technological Tools*

Introduction

Economists and industry observers across the globe believe that 2023 is yet to recover from the negative impact of the global pandemic and that the economic downturn continues. The fear of recession, doubts, and uncertainty about the future have paused the enthusiasm of startups. Technology titans and unicorns are downsizing and cutting jobs and are unwilling to think beyond the basics at this juncture of time (Meta Plans Thousands More Layoffs, 2023; Subramaniam, 2023; The Star, 2023). The startups are experiencing cash crunches, and fundraising has become more difficult than before (Bek, 2023; Financialexpress, 2022; A World Bank Group Flagship Report Global Economic Prospects, 2023).

Aspiring entrepreneurs are getting puzzled by the views, predictions, opinions, and counter opinions of experts (Bannon, 2022; Entrepreneur, 2023; Heater, 2022; Kashyap, 2022; Riani, 2023). Private investors are waiting for the dust to settle. Despite all these odds, the spirit of startups is alive and kicking across the globe. A new breed of digital entrepreneurs is emerging and paving the way for a new normal (Anon, 2023; Cosgrove, 2022; Malayil, 2023; Sivaramakrishnan, 2023; Smith, 2022; Wiggers, 2023a).

This raises three key questions: (i) If the cash is in short supply, how are the startups sprouting and growing? (ii) How are the emerging challenges creating new opportunities for digital

entrepreneurship? and (iii) How are the new opportunities reconfiguring the innovation landscape of digital entrepreneurship?

The answers to these questions can be derived by understanding the value creation process of digital entrepreneurship and the innovation landscape of digital entrepreneurship and analyzing the impacts of the emerging challenges of the global economic slowdown, geopolitical conflicts, and the evolution of new digital technological tools.

Discussion

Digital Startups Value Creation Process

Startups generate new ideas, spur economic activity, and ignite dynamic competition in the marketplace. They are the engines of innovation and growth (Bureau, 2018; Jesemann, 2020; Jurgens, 2022). The present 2023 economic downturn has certainly created fund crunches for many startups, but that could not deter the spirit of innovation (Riding the Digital Storm: How India's Startups Are Shaping the Post-pandemic 'Normal', 2021; Jurgens, 2022; Malayil, 2023). Who will survive and thrive and who is likely to succumb to this hard economic downturn, market turbulence, and cash crunches depends on the robustness of the startup's value creation ability under the given situation, the uniqueness of the innovation capability, and the sustainability of the business model, as articulated in Figure 1.

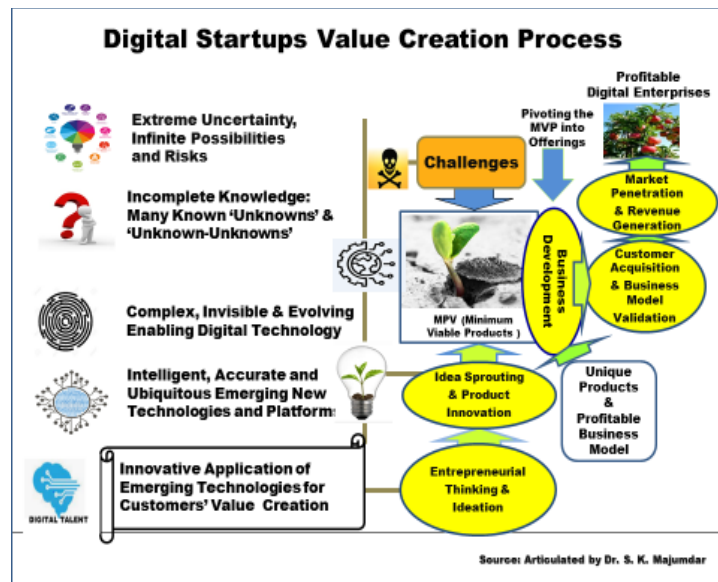


Figure 1: Digital Startups Value Creation Process

Outdoing challenges (Figure 1) is the core competency (Prahalad, 1990) of digital entrepreneurship (Blank, 2013; O'Malley, 2016) and can survive, thrive, and sustain the pressure of market forces (Blank, 2013; Ries, 2011; World Economic Forum, 2020). Effective use of the emerging disruptive innovation power of digital technology by talented digital entrepreneurs exploring disruptive innovation and replacing complicated, cumbersome, and costly products or services with easy-to-use, affordable products and services are the fortes of digital startups (Christensen, Raynor & McDonald, 2015; Cote, 2020; Desai.com, 2013).

To foster entrepreneurship, many agencies, institutions, investors, and government organizations have been distributing lollipops and encouraging aspiring startups to enter the landscape of digital entrepreneurship to pursue their entrepreneurial dreams. Many startups with unique ideas even saw rays of hope and green signals of success in the initial days of their journey but failed to cross the 'Death Valley' of extreme uncertain and unpredictable market forces (Heater, 2022). Statistics show that 90% of startups fail, and, on average, it takes 2-3 years for startups to make a profit. The United States of America has the highest number of startups as of date (Ruby, 2023).

All digital entrepreneurs envision building innovative products and services for their customers (O'Malley, 2016), either for replacement of the inefficient and cumbersome processes and products or for the development of totally new 'Blue Ocean' products and services (Kim & Mauborgne, 2015), which were non-existent and unknown to their intended customers.

The seven key entities of the digital startup value creation process are: Talent, Technology, Idea, Innovative New Product (Minimum Viable Product - MVP), Pivoting and transforming the MVP into a 'blue-ocean-solution' (Kim & Mauborgne, 2015), refining, retrofitting, and repackaging them into marketable products and services (Blank, 2013). The MVP is idea sprouting - the first shoot and the starting point of the startup' journey to discover its customers and pivot the MVP as per the wants, needs, and desires of its potential buyers (Bhide, 1996; Blank, 2013; Ries, 2011).

The business world values the merits of every innovation and creation in terms of their financial worth (Bhide, 1996). No MVP is worth pursuing unless it has the potential to create value for customers, investors, and entrepreneurs (O'Malley, 2016) and can survive, thrive, and sustain the pressure of market forces (Blank, 2013; Ries, 2011).

The major challenges of digital entrepreneurship are not only transforming the MVP into valuable marketable products and/or services but also building and running a profitable business enterprise (Jurgens, 2022). Entrepreneurship is a multi-phased journey of the startup for customer acquisition, development of a sustainable and profitable business model, finding funds for supporting its operations, generating revenues to pay its bills, and creating value for its customers as well as for all the stake holders of the enterprise (Majumdar, 2018).

The digital entrepreneur begins his or her entrepreneurial journey with a vision and an idea of building a new enterprise with strong self-efficacy to face challenges and threats (Accion Opportunity Fund, n.d.). Will the present 2023 economic downturn and cash crunch kill or kick up the spirits of digital entrepreneurship? The answer is yes and no (Arab News, 2023; Bannon, 2022; Entrepreneur, 2023; Heater, 2022; Jurgens, 2022; Sifted, 2023; Stokes, 2023; VentureBeat, 2023; World Economic Forum, 2023).

Landscape of Digital Entrepreneurship

To understand who is likely to perish during the economic downturn and who is likely to thrive, one has to analyze the present global and regional situations with reference to the startup value creation process (as articulated in Figure 1) in conjunction with the tenets of Digital Entrepreneurship Ecosystem (Elia, Margherita & Passiante, 2020; Qmarkets, 2021) and the innovation management process (Desai.com, 2013) of digital entrepreneurship as articulated in Figure 2.

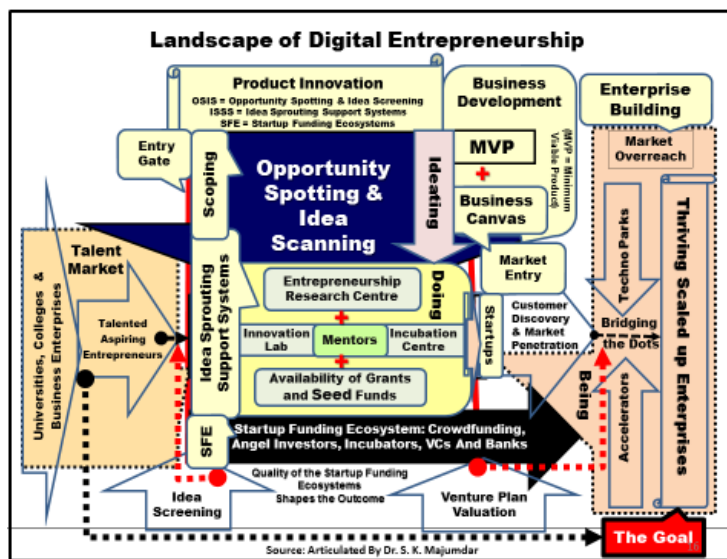


Figure 2: Landscape of Digital Entrepreneurship

It is evident from Figure 2, landscape of digital entrepreneurship, that the three cornerstones of digital entrepreneurship are product innovation (MVP), business development, and enterprise building. It is also to be noted that the journey of aspiring digital startups begins with opportunity spotting and idea scanning. Secondly, to counter the challenges of the recession, regional governments and funding agencies are redrawing their priorities and funding strategies (Arab News, 2023; Cosgrove, 2022; Subramaniam, 2023; Union Budget 2023: A Path to Growth for Indian Startups, 2023; Malayil, 2023).

Both business-development and enterprise-building follow the mechanisms of the innovation funnel (Qmarkets, 2021; Desai.com, 2013). The landscape mapping of digital entrepreneurship is essential to managing the innovation processes of digital entrepreneurship. The landscape map of digital entrepreneurship, as shown in Figure 2, highlights the major entities and mechanisms of the innovation funnel (Desai.com, 2013; Bonazzi & Zilber, 2014) that metamorphose an idea into a profitable digital enterprise. MVP is a tangible technical solution to a pressing and complex customer problem. An in-house research and development (R&D) process needs facilitation support for experimentation, verification, and validation until a minimum viable product (MVP) is found.

Opportunity Spotting and Idea Scanning (OSIS) is a process of selecting the subject that the aspiring entrepreneur wishes to pursue (Harrison, 2013). Whereas Idea Sprouting Support Systems (ISSS) is the availability of in-house research and development supporting systems for idea exploration, hypothesis testing, and concept validation, including financial grants and mentoring services.

In contrast, the Startup Funding Ecosystems (SFE) are external private investors like angel investors, incubators, venture capitalists (VC), and other agencies who might be willing to provide financial support provided the chosen venture project ideas and execution plans (the Business Model Canvas) (Enterprising Oxford, 2022) commensurate with the startup team's competency are in perfect alignment with investors' funding criteria (CoffeeMug, 2022, depoventures.com, n.d., Sofia Angels Ventures, n.d.). In general, external funding agencies are interested in seeing proof of the concept and reliability of the proposed business model and the startup's commercialization capability.

It is evident from the above paragraph that five prerequisites of digital entrepreneurship are: (i) an innovative business idea, (ii) a competent management team, (iii) in-house research and entrepreneurship fruition facilities, (iv) internal (in-house) and external financial supports for idea sprouting (ISSS) and solution generation (SFE), and (v) a profitable and sustainable business model. The same has been portrayed in Figure 2, landscape of digital entrepreneurship.

When all five processes of the digital entrepreneurship funnel (Delserieys, 2022) work in tandem, the probability of success increases. In an economic downturn, opportunities as well as the entrepreneurial ecosystem (internal and external support systems) are evolving. Funding agencies are redefining their investment strategies and trying to reduce risks and pilferages. Thus, the scope for quick bucks is certainly over. But committed and compassionate startups with ground-breaking disruptive innovation are replacing inefficient, costly processes and procedures and gaining footholds in the marketplace.

As tech titans are downsizing, getting talent has become relatively easy (Bek, 2023; The Star, 2023). This is a side effect of the economic downturn and certainly a positive stimulus for startups. The role of talent in the landscape of digital innovation is supreme. There is no substitute for talents and teams; the depth of the opportunity and the cleverness of the idea, as well as the quality of in-house idea fruition support systems (IFSS) and the availability of startup funds (SFE), are essential prerequisites for idea fruition and enterprise building.

Enterprise-building is the commercialization of the innovation, customer acquisition, earning profits, and subsequently building a sustainable enterprise for merchandising the innovation (www.mckinsey.com, n.d.). Transforming the MVP into 'offerings' for which customers will be willing to pay is altogether a different ballgame. The Business Canvas is the checkerboard for developing a quick and comprehensive business plan for customer acquisition and a revenue earning plan for the startup.

The current economic downturn has tightened the screening process and significantly squeezed the innovation funnel. Startup funding experienced a significant drop in 2022 (Agarwal, 2023; Bain, 2023; Bek, 2023; Financialexpress, 2022; Ruby, 2023; Subramaniam, 2023). The downturn has battered the positive outlook of the entrepreneurship market, and everyone in the landscape of entrepreneurship is reconfiguring their strategies.

The economic downturn has changed the scope, challenges, and opportunities of digital entrepreneurship. Idea screening and venture funding are taking those emerging challenges and issues into consideration while making their choices. Apart from the proof and prospect of the business idea, the startup team's credibility and commitment to transform the startup into a profitable digital enterprise are becoming more important than before.

Evidence of recent fundraising successes (Anon, 2023; FinSMEs, 2023; Malayil, 2023) India raises \$150K in a seed round led by Real Time Angel Fund, AIC-BIMTECH, 2023; SaaS startup Houseware raises \$2.1 million led by Tanglin Venture Partners, 2023; Singh, 2023; Staff, 2023; VCCircle, n.d.; Wiggers, 2023b) shows that the downturn is not killing digital entrepreneurship. But opening a new frontier for disruptive innovation in accordance with the emerging challenges and development goals of the nation (Arab News, 2023; Cosgrove, 2022; Delserieys, 2022; Dickinson, 2021; Fortune, 2023; Kamps, 2023; Kadam, 2023; Malayil, 2023; Sifted, 2023; Stokes, 2023; Union Budget 2023: A Path to Growth for Indian Startups, 2023); This reveals that political leaders are more willing to deploy the innovative power and entrepreneurial skills of digital startups to outshine the challenges and remain globally and regionally competitive (Bureau, 2018).

The geopolitical conflicts that are impacting every nation are the Russia-Ukraine war, the warmongering of China, the USA, and North Korea. These conflicts have threatened the stability of the global economy (Väyrynen, n.d., Brookings, 2022) and are the root cause of many crises and challenges. Frequent national and international calamities are troubling everyone. These geopolitical and climatic challenges are compelling countries to inspire their national digital talents to find solutions for these pressing problems. This once again reminds us of the proverb, "Necessity is the Mother of Invention". It is evident from the above that the emerging geopolitical challenges and threats are blessings in disguise and broaden the scope, challenges, and opportunities of digital entrepreneurship.

The Russia-Ukraine war has created an energy crisis in Europe (Thomson, 2022). The rising price of fossil fuel is hurting oil-importing countries like India and others (Lioudis, 2022). Global calamities remain unabated and affect everyone on the planet (Marchant, 2021). To turn the tables, regional and national economies are allocating funds and encouraging startups to turn problems into opportunities (Arab News, 2023; Subramaniam, 2023; Stokes, 2023).

Concurrently, technologies like artificial intelligence (AI), quantum computing, robotics, drones, 5G, 3D printing, and machine learning are providing new means of business process reinvention and compelling global industries to change their business models (Council, n.d.). The big tech enterprises have frozen recruitment (The Star, 2023), and the talent scarcity market has become a talent surplus market. Many tech talents are on the lookout for the new openings.

Russia-Ukraine war and warmongering by China and the US, prompting India (www.investindia.gov.in, n.d., Union Budget 2023: A Path to Growth for Indian Startups (Singh, 2023), Malaysia (Staff, 2023), and others to deploy their talent pools to transform the challenges into attractive opportunities.

Nevertheless, the impact of the emerging challenges and opportunities in a region is to be assessed on the basis of the priority policies of the country and region. In short, the industry and the economic sectors, in general, that are emerging as most challenging are: defence, space, agriculture, health and wellness, green energy, transport and mobility, shipbuilding, digital transformation, cyber security, disaster management, MSMEs, and technology sectors like AI, 5G, IOT, AR/VR, blockchain, 3D printing, robotics, drones, quantum computing, and many more (www.hoory.com, n.d.; Gartner, 2023; MarketsandMarkets, n.d.).

Conclusion

An in-depth review of the funding trends of startups across the globe reveals that the current economic slowdown has not stopped funding innovative and promising startup projects. On the contrary, a new breed of venture funding organizations are encouraging talented digital startups to pursue radical and game changing innovations and act in accordance with the emerging conditions and challenges of the evolving future markets.

Geopolitical conflicts, climate change, and emerging disruptive digital technologies have significantly impacted the landscape of digital entrepreneurship. The four blocks of the digital landscape that have been affected are: (i) opportunities and scope of digital entrepreneurship; (ii) entrepreneurship fostering support systems - the entrepreneurship research and development facilities; (iii) the availability of institutional grants and seed funds; and (iv) the availability of public and private funds for seed funds and funds for market penetration and business expansions.

The political leadership is changing national and regional priorities and consequently impacting the seed grants. Governments and international organizations are incentivizing digital entrepreneurs for cutting edge innovation in certain specified sectors of national focus. The sectors that fall under this category are: Agriculture, Climate Change, Cyber Security, Defence, Green Energy, Health and Wellness, Digitization of MSMEs, and Space Research.

One of the most powerful forces reshaping the market and the landscape of digital entrepreneurship is the new digital technological tools – the means of digital entrepreneurship. The technological tools that are radically changing and impacting the ways of digital entrepreneurship are AI, 5G blockchain, 3D printing, robotics, drones, and quantum computing.

The digital entrepreneurship market is dynamic and challenging. The challenges and opportunities of digital entrepreneurship are constantly evolving. Therefore, opportunity spotting and idea scanning are the first critical steps in the digital entrepreneurship journey. The idea fruition support systems and the matching required enabling technologies for the chosen scope of the entrepreneurship project are the second touchstones of digital entrepreneurship. New innovation opens new doors and new options. But the five core competencies of digital entrepreneurship require constant upskilling. These competencies of entrepreneurship are (i) product innovation, (ii) business development, (iii) generation and validation of business models, (iv) customer acquisition, revenue generation and creating value for customers, and (v) the managerial skills of managing change.

Conflict of Interest

The authors declare that they have no conflict of interest.

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References

- A World Bank Group Flagship Report Global Economic Prospects. (2023). Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/38030/GEP-January-2023.pdf>
- Accion Opportunity Fund (n.d.). *Entrepreneurial Mindset: 5 Characteristics to Cultivate*. (online) Accion Opportunity Fund. Available at: <https://aofund.org/resource/entrepreneurial-mindset-5-characteristics-to-cultivate/>
- Agarwal, M. (2023). *Is Profitability A Distant Dream? 55 Of India's Most-Valued Startups Remain Loss-Making In FY22*. (online) Inc42 Media. Available at: <https://inc42.com/features/55-of-indias-most-valued-startups-incurred-losses-in-fy22/>
- Anon, (2023). *Pidge secures \$3 million in pre-Series A funding for its logistics operations | Startup Story*. (online) Available at: <https://startupstorymedia.com/insights-pidge-secures-3-million-in-pre-series-a-funding-for-its-logistics-operations/>
- Arab News. (2023). *Saudi startup ecosystem takes a huge leap*. (online) Available at: <https://www.arabnews.com/node/2249311/business-economy>

- Bain. (2023). *Global Venture Capital Outlook: The Latest Trends*. (online) Available at: <https://www.bain.com/insights/global-venture-capital-outlook-latest-trends-snap-chart/>
- Bannon, M.T. (2022). *12 Predictions For Venture Capital In 2023*. (online) Forbes. Available at: <https://www.forbes.com/sites/marenbannon/2022/12/20/12-predictions-for-venture-capital-in-2023/?sh=4007b0e5515b>
- Bek, N. (2023). *Pacific Northwest startup funding activity is down 80% so far this year*. (online) GeekWire. Available at: <https://www.geekwire.com/2023/pacific-northwest-startup-funding-activity-is-down-80-so-far-this-year/>
- Bhide, A. (1996). The questions every entrepreneur must answer. *Harvard business review*, 74(6), 120.
- Blank, S. (2013). *Harvard business review. Why the Lean startup changes everything*.
- Bonazzi, F.L.Z. and Zilber, M.A. (2014). Innovation and Business Model: A case study about *integration of Innovation Funnel and Business Model Canvas*. *Revista Brasileira de Gestão de Negócios*, (online) 16, pp.616–637. <https://doi.org/10.7819/rbgn.v16i52.1812>
- Brookings. (2022). *Rebooting global cooperation is imperative to successfully navigate the multitude of shocks facing the global economy*. (online) Available at: <https://www.brookings.edu/essay/rebooting-global-cooperation-is-imperative-to-successfully-navigate-the-multitude-of-shocks-facing-the-global-economy/>
- Bureau, O. (2018). *'Start-ups are more an engine for innovation and growth rather than job creation'*. (online) www.thehindubusinessline.com. Available at: <https://www.thehindubusinessline.com/companies/start-ups-are-more-an-engine-for-innovation-and-growth-rather-than-job-creation/article25159177.ece>
- Christensen Institute (2016). *Disruptive Innovations*. (online) Christensen Institute. Available at: <https://www.christenseninstitute.org/disruptive-innovations/>
- Christensen, C.M., Raynor, M.E. and McDonald, R. (2015). *What Is Disruptive Innovation?* (online) Harvard Business Review. Available at: <https://hbr.org/2015/12/what-is-disruptive-innovation>
- CoffeeMug, T. (2022). *Startup Investment Guide: What are the important criteria for investment in your startups?* (online) CoffeeMug. Available at: <https://coffeemug.ai/blog/what-are-the-important-criteria-for-investment-in-startups/>
- Cosgrove, E. (2022). *How a recession could be a huge opportunity for 'upstream' startups*. (online) Business Insider. Available at: <https://www.businessinsider.com/recession-could-boost-industrial-supply-chain-upstream-startups-2022-11>
- Cote, C. (2020). *What Is Disruptive Innovation? | HBS Online*. (online) Business Insights - Blog. Available at: <https://online.hbs.edu/blog/post/what-is-disruptive-innovation>
- Council, Y.E. (n.d.). *Council Post: How The Fourth Industrial Revolution Is Impacting The Future of Work*. (online) Forbes. Available at: <https://www.forbes.com/sites/theyec/2018/10/19/how-the-fourth-industrial-revolution-is-impacting-the-future-of-work/?sh=3bd8974665a7>
- Delserieys, E. (2022). *How full-funnel strategies fuel success in an economic downturn*. (online) Marketing Week. Available at: <https://www.marketingweek.com/how-full-funnel-strategies-fuel-success-in-an-economic-downturn/>
- Depoventures.com. (n.d.). *7 startup investment criteria that will help you mitigate risk significantly | Latest | DepoVentures.com*. (online) Available at: <https://depoventures.com/latest/7-startup-investment-criteria-that-will-help-you-mitigate-risk-significantly>
- Desai.com. (2013). *Innovation Funnel, Innovation management process (IMP), Execution Methodology, Innovation Pipeline*. (online) Available at: <http://www.desai.com/our-approach/innovation-funnel.php>
- Dickinson, K. (2021). *10 emerging technologies that will change our world*. (online) Big Think. Available at: <https://bigthink.com/the-future/10-emerging-technologies-change-world/>
- Elia, G., Margherita, A., & Passiante, G. (2020). Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process. *Technological Forecasting and Social Change*, 150, 119791. <https://doi.org/10.1016/j.techfore.2019.119791>
- Enterprising Oxford (2022). *Business Model Canvas Explained | Enterprising Oxford*. (online) eship.ox.ac.uk. Available at: <https://eship.ox.ac.uk/business-model-canvas-explained/>

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- Entrepreneur, E.A.-I. (2023). *Venture Capital Year 2023, Predictions*. (online) vcworldsummit.com. Available at: <https://vcworldsummit.com/venture-capital-2023-predictions/>
- February 15, B. / B. and Pm +08, 2023 14:58 (2023). *Solarvest to allocate up to RM1 mil for Solarvest Innovation Lab 2023 start-up programme*. (online) The Edge Markets. Available at: <https://www.theedgemarkets.com/node/655334>
- Financialexpress. (2022). *With the looming recession, startup funding sees a drop in 2022: Report*. (online) Available at: <https://www.financialexpress.com/brandwagon/with-the-looming-recession-startup-funding-sees-a-drop-in-2022-report/2906186/>
- FinSMEs (2023). *EtherMail Raises \$4M in Pre-Series A Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/ethermail-raises-4m-in-pre-series-a-funding.html>
- FinSMEs (2023). *Matchday Raises \$21M in Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/matchday-raises-21m-in-seed-funding.html>
- FinSMEs (2023). *trawa Raises €2.4M in Pre-Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/trawa-raises-e2-4m-in-pre-seed-funding.html>
- FinSMEs (2023). *Aiberry Raises \$8M in Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/aiberry-raises-8m-in-seed-funding.html>
- FinSMEs (2023). *Cubist Raises \$7M in Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/cubist-raises-7m-in-seed-funding.html>
- FinSMEs (2023). *DexMat Raises \$3M in Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/dexmat-raises-3m-in-seed-funding.html>
- FinSMEs (2023). *Luru Raises \$1.4M in Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/luru-raises-1-4m-in-seed-funding.html>
- FinSMEs (2023). *Speedscale Raises \$9M in Pre-Seed and Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/speedscale-raises-9m-in-pre-seed-and-seed-funding.html>
- FinSMEs (2023). *SteadyPay Raised \$3M in Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/steadypay-raised-3m-in-seed-funding.html>
- FinSMEs (2023). *Tweed Raises \$4M in Seed Funding*. (online) FinSMEs. Available at: <https://www.finsmes.com/2023/03/tweed-raises-4m-in-seed-funding.html>
- Fortune. (2023). *Read the pitch deck that helped cloud management startup Vantage raise \$21 million*. (online) Available at: <https://fortune.com/2023/03/08/read-pitch-deck-cloud-startup-vantage-raise-21-million/>
- Gartner. (2023). *4 Emerging Technologies You Need to Know About*. (online) Available at: <https://www.gartner.com/en/articles/4-emerging-technologies-you-need-to-know-about>
- Harrison, S. (2013). *Ideaspotting*. Machillock Pub. ISBN-13: 978-0974499659
- Heater, B. (2022). *Remembering the startups, we lost in 2022*. (online) TechCrunch. Available at: <https://techcrunch.com/2022/12/20/remembering-the-startups-we-lost-in-2022>
- Jeffrey H. Dyer, Hal Gregersen, and Clayton M. Christensen (n.d.). *The Innovator's DNA*.
- Jesemann, I. (2020). Support of startup innovation towards development of new industries. *Procedia CIRP*, 88, pp.3–8. <https://doi.org/10.1016/j.procir.2020.05.001>
- Jr, T.H. (2022). *Startup funding has tanked over the past year—and recession fears are to blame*. (online) CNBC. Available at: <https://www.cnbc.com/2023/01/12/startup-investment-fell-in-late-2022-amid-recession-fear-crunchbase.html>
- Jr, T.H. (2023). *The 3 biggest reasons startups failed in 2022, according to a poll of almost 500 founders*. (online) CNBC. Available at: <https://www.cnbc.com/2023/01/20/top-reasons-why-startups-failed-in-2022-study.html>
- Jurgens, J. (2022). *How startups drive economic recovery while growing responsibly*. (online) World Economic Forum. Available at: <https://www.weforum.org/agenda/2022/05/how-startups-help-drive-economic-recovery-and-growth/>

- Kadam, T. (2023). *India To Spend A Whopping \$100 Billion To Modernize Its Military; Looks At 100% Indigenization Of LCA Tejas*. (online) Latest Asian, Middle-East, EurAsian, Indian News. Available at: <https://eurasianimes.com/india-to-spend-a-whopping-100-billion-to-modernize-its-military/?amp>
- Kamps, H.J. (2023). *Pitch Deck Teardown: MiO Marketplace's \$550K angel deck*. (online) TechCrunch. Available at: <https://techcrunch.com/2023/03/09/sample-angel-pitch-deck-mio-marketplace/>
- Kashyap, H. (2022). *India Now Creating Unicorns Faster Than China*. (online) Inc42 Media. Available at: <https://inc42.com/buzz/india-creating-unicorns-faster-china>
- Kim, W.C. and Mauborgne, R. (2015). *Blue ocean strategy: how to create uncontested market space and make the competition irrelevant*. Boston, Massachusetts: Harvard Bus Review Press.
- Lioudis, N. (2022). *What Is the Relationship Between Oil Prices and Inflation?* (online) Investopedia. Available at: <https://www.investopedia.com/ask/answers/06/oilpricesinflation.asp>
- Majumdar, S. K., & BR, G. K. (2018). Lifecycle Model for Management of Digital Entrepreneurship: A Framework for Managing the Progression of Startups to Scaleup. *International Journal on Recent Trends in Business and Tourism (IJRTBT)*, 2(4), 29-34.
- Malayil, J. (2023). *DOD provides a further \$1.5M to develop a 3D-printed hypersonic engine*. (online) interestingengineering.com. Available at: <https://interestingengineering.com/transportation/3d-printed-hypersonic-engine>
- Marchant, N. (2021). *This is how climate change could impact the global economy*. (online) World Economic Forum. Available at: <https://www.weforum.org/agenda/2021/06/impact-climate-change-global-gdp/>
- MarketsandMarkets. (n.d.). *Industry 4.0 Market Trends & Growth Drivers*. (online) Available at: https://www.marketsandmarkets.com/Market-Reports/industry-4-market-102536746.html?gclid=EAlaIqobChMk5GXypbL_QIVzH8rCh01TwMoEAAAYASAAEqjSd_D_BwE
- Meta Plans Thousands More Layoffs as Soon as This Week. (2023). *Bloomberg.com*. (online) 7 Mar. Available at: <https://www.bloomberg.com/news/articles/2023-03-07/meta-is-said-to-plan-thousands-more-layoffs-as-soon-as-this-week#xj4y7vzkg>
- O'2 Nails India raises \$150K in seed round led by Real Time Angel Fund, AIC-BIMTECH. (2023). *The Economic Times*. (online) 28 Feb. Available at: <https://m.economictimes.com/small-biz/entrepreneurship/o2-nails-india-raises-150k-in-seed-round-led-by-real-time-angel-fund-aic-bimtech/articleshow/98293533.cms>
- O'Malley, P. (2017). *Value Creation and Business Success - The Systems Thinker*. (online) The Systems Thinker. Available at: <https://thesystemsthinker.com/value-creation-and-business-success/>
- Prahalad, C. K. (1993). The role of core competencies in the corporation. *Research-Technology Management*, 36(6), 40-47.
- Qmarkets (2021). *Why Your Innovation Funnel Needs an Overhaul: A Step-by-Step Guide*. (online) Qmarkets. Available at: <https://www.qmarkets.net/blog/innovation-funnel/>
- Raju, N. (2023). *Budget 2023-24: Here's what the Startups from different segments wishing for*. (online) CXOToday.com. Available at: <https://www.cxotoday.com/specials/budget-2023-24-heres-what-the-startups-from-different-segments-wishing-for/>
- Riani, A. (2023). *Is A Recession A Good Time To Start A New Business?* (online) Forbes. Available at: <https://www.forbes.com/sites/abdoriani/2023/01/28/is-a-recession-a-good-time-to-start-a-new-business/?sh=7279ff3f42e>
- Riding The Digital Storm: *How India's Startups Are Shaping, The Post-pandemic 'Normal'*. (2021). inc42. (online) 6 Dec. Available at: <https://inc42.com/resources/how-indias-startups-are-shaping-the-post-pandemic-normal/>
- Ries, E. (2011). *The Lean Startup (Portfolio Penguin). On how to experiment with new products*.
- Ruby, D. (2022). *106+ Startup Statistics of 2022 (The Extensive List)*. (online) demandsage. Available at: <https://www.demandsage.com/startup-statistics/>
- Ruby, D. (2023). *107+ Startup Statistics For 2023 (Global Facts and Figures)*. (online) Demand Sage. Available at: <https://www.demandsage.com/startup->

- [statistics/#:~:text=Important%20Startup%20Statistics%20\(2023\)&text=90%25%20of%20startups%20around%20the](#)
- SaaS startup Houseware raises \$2.1 million led by Tanglin Venture Partners. (2023). *The Economic Times*. (online) 9 Mar. Available at: https://economictimes.indiatimes.com/tech/funding/saas-startup-houseware-raises-2-1-million-led-by-tanglin-venture-partners/articleshow/98523672.cms?_oref=cook&from=mdr
- Sawers, P. (2023). *Microservices orchestration platform Temporal raises \$75M and remains a unicorn*. (online) TechCrunch. Available at: <https://techcrunch.com/2023/02/28/microservices-orchestration-platform-temporal-raises-75m-and-remains-a-unicorn/>
- Schwab, K. (2016). *The Fourth Industrial Revolution: what it means, how to respond*. (online) World Economic Forum. Available at: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>
- Sifted, 2023 Singh, A. (2023). *Ashneer Grover's Third Unicorn raises seed round*. (online) mint. Available at: <https://www.livemint.com/news/india/ashneer-grover-s-third-unicorn-raises-seed-round-11677504619776.html>
- Sifted. (2023). *The European VCs set to raise new funds this year*. (online) Available at: <https://sifted.eu/articles/european-vc-new-funds-2023/>
- Singh, M. (2023). *Sequoia heats up early-stage startup investments in India and Southeast Asia*. (online) TechCrunch. Available at: <https://techcrunch.com/2023/02/28/sequoia-heats-up-early-stage-startup-investments-in-india-and-southeast-asia/>
- Sivaramakrishnan, V. (2023). *SaaS startup Growfin raises \$7.5M in Series A funding led by SWC Global*. (online) YourStory.com. Available at: <https://yourstory.com/2023/03/funding-saas-startup-growfin-series-a-swc-global>
- Smith, M. (2022). *10 'recession-proof' jobs that will be in demand even during a potential economic downturn in 2023*. (online) CNBC. Available at: <https://www.cnbc.com/2022/12/21/recession-proof-jobs-that-will-be-in-demand-even-during-a-downturn.html>
- Sofia Angels Ventures. (n.d.). *Investment Criteria*. (online) Available at: <https://sofiaventures.eu/startups/investment-criteria/>
- Staff, T.G. (2023). *Malaysia's Durioo+ raises \$2.85M in seed round led by Y Combinator and Gobi Partners*. (online) TechNode Global. Available at: <https://technode.global/2023/03/01/malysias-durioo-raises-2-85m-in-seed-round-led-by-y-combinator-and-gobi-partners/>
- Stokes, S. (2023). *A new wave of startups are tackling financial issues within the healthcare space. Here are 14 to check out*. (online) Business Insider. Available at: <https://www.businessinsider.com/14-healthtech-fintech-startups-that-have-raised-millions-from-vcs-2023-2>
- Subramaniam, P., January 02, K.J. / T.E.M. and Am +08, 2023 00:00 (2023). *Stepping into an uncertain 2023*. (online) The Edge Markets. Available at: <https://www.theedgemarkets.com/node/649299>
- The Star. (2023). *Tech industry job cuts come rapidly and in big numbers*. (online) Available at: <https://www.thestar.com.my/tech/tech-news/2023/02/01/tech-industry-job-cuts-come-rapidly-and-in-big-numbers>
- Thomson, E. (2022). *Russia-Ukraine war has put Europe on energy crisis mode. Historical reliance adds to problem*. (online) ThePrint. Available at: <https://theprint.in/world/russia-ukraine-war-has-put-europe-on-energy-crisis-mode-historical-reliance-adds-to-problem/1214376/>
- Union Budget 2023: A path to growth for Indian Startups. (2023). *The Times of India*. (online) 2 Feb. Available at: <https://timesofindia.indiatimes.com/business/budget/union-budget-2023-a-path-to-growth-for-indian-startups/articleshow/>
- Union Budget 2023: A path to growth for Indian Startups. (2023). *The Times of India*. (online) 2 Feb. Available at: <https://timesofindia.indiatimes.com/business/budget/union-budget-2023-a-path-to-growth-for-indian-startups/articleshow/>
- Väyrynen, R. (n.d.). *Is Globalization Dead and Is It a Good Thing?* (online) OpenMind. Available at: <https://www.bbvaopenmind.com/en/articles/is-globalization-dead-and-is-it-a-good-thing/>

- VCCircle. (n.d.). *PremjiInvest leads \$110-mn funding round of fintech startup Mintifi*. (online) Available at: <https://www.vccircle.com/premjiinvestleads-110-mn-funding-round-of-fintech-startup-mintifi>
- VCCircle. (n.d.). *Startups hit by winter blizzard in February as deals sink to nine-year low*. (online) Available at: <https://www.vccircle.com/startupshit-by-winter-blizzard-in-february-as-deals-sink-to-nine-year-low>
- VentureBeat. (2023). *10 recently-funded tech startups to watch in 2023*. (online) Available at: <https://venturebeat.com/enterprise-analytics/10-recently-funded-tech-startups-to-watch-in-2023>
- Wiggers, K. (2023a). *Attio raises \$23.5M to build a next-gen CRM platform*. (online) TechCrunch. Available at: <https://techcrunch.com/2023/03/02/attio-raises-23-5m-to-build-a-next-gen-crm-platform/>
- Wiggers, K. (2023b). *Behavioral marketing platform Wunderkind nabs \$76M*. (online) TechCrunch. Available at: <https://techcrunch.com/2023/03/02/behavioral-marketing-platform-wunderkind-nabs-76m/?guccounter=1>
- World Economic Forum. (2020). *How digital entrepreneurs will help shape the world after the COVID-19 pandemic*. (online) Available at: <https://www.weforum.org/agenda/2020/06/entrepreneurs-must-embrace-digital-during-pandemic-for-society/>
- World Economic Forum. (2023). *This is how entrepreneurship will change in 2023*. (online) Available at: <https://www.weforum.org/agenda/2023/01/davos23-entrepreneurship-change-this-year>
- www.hoory.com. (n.d.). *10 Emerging Technologies That Changed The World In 2022*. (online) Available at: <https://www.hoory.com/blog/10-emerging-technologies-that-changed-the-world-in-2022>
- www.investindia.gov.in. (n.d.). *Union Budget 2023: Easing the Journey for Startups*. (online) Available at: <https://www.investindia.gov.in/team-india-blogs/union-budget-2023-easing-journey-startups>
- www.mckinsey.com. (n.d.). *Six building blocks for creating a high-performing digital enterprise | McKinsey*. (online) Available at: <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/six-building-blocks-for-creating-a-high-performing-digital-enterprise>